

Resistor, Capacitor Values

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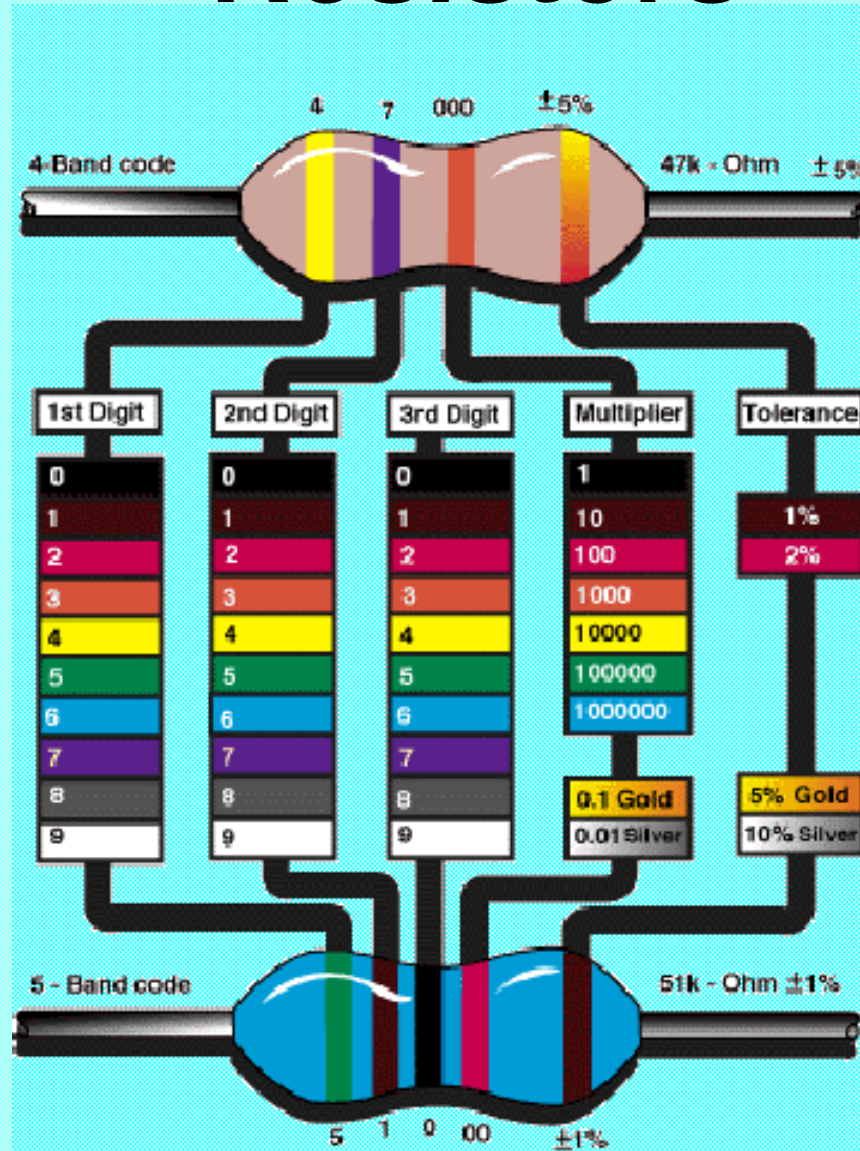
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Component Identification

- Components are expressed in standard units
 - M, K, R for resistance;
 - u, n, p for capacitance;
 - h, u, m for inductance
- A method of labeling has been adopted for component values which replaces the decimal point with the the standard unit letter. I.E.. a 4700 ohm resistor will be referred to as 4K7.

Three and Five Band Resistors



Number/Letter - Coded Capacitors

- Capacitors having markings greater than 1 are usually in pf. and less than 1 are usually in uf.
- Values up to 1 uf are usually non-polarized; 1 uf and beyond the capacitor is almost always polarized.
- Voltage ratings for all capacitors will be indicated on the body of the cap. I.E. 47 uf/50 will be a 47 microfarad(uf) cap. at 50 volts dc.

Reading The Capacitor

- Polarized electrolytic (radial) long lead positive - value 47 uf 10 v - read 47 microfarads(uf), 10 volts dc.
- Polarized tantalum (radial) long lead positive - value 474 +35K - read 470 000 picofarads(pf), expressed as 0.47 microfarads(uf), 35 volts dc, +/-10%
- Non-polarized ceramic - value 103K - read 10 000 picofarads(pf), expressed as 0.01 microfarads(uf) +/- 10%
- Non-polarized polystyrene - value 1n0 - read 1 nanofarad , 1 000 picofarads(pf) or 0.001 microfarads(uf)

Summary

- Reviewed standard electronic units.
- Considered a typical colour code chart for resistors.
- Examined typical capacitor markings and polarity indicators.
- Learned the method of reading capacitor values.

Where to get more information

- Electronic Fabrication Second Edition
by Gordon Shimizu
- Electronic Project Design and Fabrication Third Edition
by Ronald A. Reis
- Electronic Assembly - Concepts and Experimentation
by Fredrick W. Hughes
- [A rudimentary resistor identifier](#)
- [How to read Capacitor Codes](#)
- [Capacitor Codes](#)